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Nitrogen Newsletter is a summary of recent publications, news and reports related to the cycling, effects and management of nitrogen. Prepared by Mary O'Brien, contractor with ASRC Federal Primus, and Jana Compton. Contact Jana Compton with any questions (Compton.jana@epa.gov)

Please note: Most of these links are available to EPA staff through library access – not all links will be available to folks outside EPA, depending on your access to specific journals and websites.

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Articles

Alster CJ, German DP, Lu Y, Allison SD. 2013. **Microbial enzymatic responses to drought and to nitrogen addition in a southern California grassland.** Soil Biol Biochem 64: 68-79. Available from: <http://dx.doi.org/10.1016/j.soilbio.2013.03.034>

Alvarez-Clare S, Mack MC, Brooks M. 2013. **A direct test of nitrogen and phosphorus limitation to net primary productivity in a lowland tropical wet forest.** Ecology 94(7): 1540-1551. Available from: <http://dx.doi.org/10.1890/12-2128.1>

Alves RJE, Wanek W, Zappe A, Richter A, Svenning MM, Schleper C, Urich T. 2013. **Nitrification rates in Arctic soils are associated with functionally distinct populations of ammonia-oxidizing archaea.** ISME J 7(8): 1620-1631. Available from: <http://dx.doi.org/10.1038/ismej.2013.35>

Bachmann RW, Hoyer MV, Canfield DE. 2013. **Effects of pH and specific conductance confound the use of the Florida Lake Vegetation Index to identify anthropogenic eutrophication.** Inland Waters 3(3): 351-358. Available from: <http://dx.doi.org/10.5268/IW-3.3.518>

Baron JS, Hall EK, Nolan BT, Finlay JC, Bernhardt ES, Harrison JA, Chan F, Boyer EW. 2013. **The interactive effects of excess reactive nitrogen and climate change on aquatic ecosystems and water resources of the United States.** Biogeochemistry 114(1-3): 71-92. Available from: <http://dx.doi.org/10.1007/s10533-012-9788-y>

Benedict KB, Carrico CM, Kreidenweis SM, Schichtel B, Malm WC, Collett JL. 2013. **A seasonal nitrogen deposition budget for Rocky Mountain National Park.** Ecol Appl 23(5): 1156-1169. Available from: <http://dx.doi.org/10.1890/12-1624.1>

Bernal S, Belillas C, Ibanez JJ, Avila A. 2013. **Exploring the long-term response of undisturbed Mediterranean catchments to changes in atmospheric inputs through time series analysis.** Sci Total Environ 458: 535-545. Available from: <http://dx.doi.org/10.1016/j.scitotenv.2013.04.072>

Bettez ND, Marino R, Howarth RW, Davidson EA. 2013. **Roads as nitrogen deposition hot spots.** Biogeochemistry 114(1-3): 149-163. Available from: <http://dx.doi.org/10.1007/s10533-013-9847-z>

Bettez ND, Groffman PM. 2013. **Nitrogen deposition in and near an urban ecosystem.** Environ Sci Technol 47(11): 6047-6051. Available from: <http://dx.doi.org/10.1021/es400664b>

Bhatti A, McClean CJ, Cresser MS. 2013. **Does plant uptake or low soil mineral-N production limit mineral-N losses to surface waters and groundwater from soils under grass in summer?** Environ Pollut 178: 128-134. Available from: <http://dx.doi.org/10.1016/j.envpol.2013.03.026>

Blesh J, Drinkwater LE. 2013. **The impact of nitrogen source and crop rotation on nitrogen mass balances in the Mississippi River Basin.** Ecol Appl 23(5): 1017-1035. Available from: <http://dx.doi.org/10.1890/12-0132.1>

Burow KR, Jurgens BC, Belitz K, Dubrovsky NM. 2013. **Assessment of regional change in nitrate concentrations in groundwater in the Central Valley, California, USA, 1950s-2000s.** Environ Earth Sci 69(8): 2609-2621. Available from: <http://dx.doi.org/10.1007/s12665-012-2082-4>

Clark CM, Morefield PE, Gilliam FS, Pardo LH. 2013. **Estimated losses of plant biodiversity in the United States from historical N deposition (1985-2010).** Ecology 94(7): 1441-1448. Available from: <http://dx.doi.org/10.1890/12-2016.1>

Conant RT, Berdanier AB, Grace PR. 2013. **Patterns and trends in nitrogen use and nitrogen recovery efficiency in world agriculture.** Global Biogeochem Cy 27(2): 558-566. Available from: <http://dx.doi.org/10.1002/gbc.20053>

Coolon JD, Jones KL, Todd TC, Blair JM, Herman MA. 2013. **Long-term nitrogen amendment alters the diversity and assemblage of soil bacterial communities in tallgrass prairie.** PLoS One 8(6): e67884. Available from: <http://dx.doi.org/10.1371/journal.pone.0067884>

- Corriveau J, Chambers PA, Culp JM. 2013. **Seasonal variation in nutrient export along streams in the northern Great Plains.** Water Air Soil Poll 224(7): 1594. Available from: <http://dx.doi.org/10.1007/s11270-013-1594-1>
- Cui ZL, Yue SC, Wang GL, Zhang FS, Chen XP. 2013. **In-season root-zone N management for mitigating greenhouse gas emission and reactive N losses in intensive wheat production.** Environ Sci Technol 47(11): 6015-6022. Available from: <http://dx.doi.org/10.1021/es4003026>
- D'Orangeville L, Houle D, Cote B, Duchesne L, Morin H. 2013. **Increased soil temperature and atmospheric N deposition have no effect on the N status and growth of a mature balsam fir forest.** Biogeosciences 10(7): 4627-4639. Available from: <http://dx.doi.org/10.5194/bg-10-4627-2013>
- Eickenscheidt N, Brumme R. 2013. **Regulation of N₂O and NO_x emission patterns in six acid temperate beech forest soils by soil gas diffusivity, N turnover, and atmospheric NO_x concentrations.** Plant Soil 369(1-2): 515-529. Available from: <http://dx.doi.org/10.1007/s11104-013-1602-7>
- Eliani-Russak E, Herut B, Sivan O. 2013. **The role of highly stratified nutrient-rich small estuaries as a source of dissolved inorganic nitrogen to coastal seawater, the Qishon (SE Mediterranean) case.** Mar Pollut Bull 71(1-2): 250-258. Available from: <http://dx.doi.org/10.1016/j.marpolbul.2013.02.001>
- Fang Y, Xun F, Bai WM, Zhang WH, Li LH. 2012. **Long-term nitrogen addition leads to loss of species richness due to litter accumulation and soil acidification in a temperate steppe.** PLoS One 7(10): e47369. Available from: <http://dx.doi.org/10.1371/journal.pone.0047369>
- Farrer EC, Herman DJ, Franzova E, Pham T, Suding KN. 2013. **Nitrogen deposition, plant carbon allocation, and soil microbes: changing interactions due to enrichment.** Am J Bot 100(7): 1458-1470. Available from: <http://dx.doi.org/10.3732/ajb.1200513>
- Frosini S, Lardicci C, Balestri E. 2012. **Global change and response of coastal dune plants to the combined effects of increased sand accretion (burial) and nutrient availability.** PLoS One 7(10): e47561. Available from: <http://dx.doi.org/10.1371/journal.pone.0047561>
- Garcia-Garcia V, Gomez R, Vidal-Abarca MR, Suarez ML. 2013. **Subsurface N retention in two Mediterranean wetland-streams affected by agricultural runoff.** Wetlands 33(4): 597-608. Available from: <http://dx.doi.org/10.1007/s13157-013-0416-y>
- Hale RL, Hoover JH, Wollheim WM, Vorusmarty CJ. 2013. **History of nutrient inputs to the northeastern United States, 1930-2000.** Global Biogeochem Cy 27(2): 578-591. Available from: <http://dx.doi.org/10.1002/gbc.20049>
- Hansen K, Sorensen LL, Hertel O, Geels C, Skjoth CA, Jensen B, Boegh E. 2013. **Ammonia emissions from deciduous forest after leaf fall.** Biogeosciences 10(7): 4577-4589. Available from: <http://dx.doi.org/10.5194/bg-10-4577-2013>

- Hasselov IM, Turner DR, Lauer A, Corbett JJ. 2013. **Shipping contributes to ocean acidification.** Geophys Res Lett 40(11): 2731-2736. Available from: <http://dx.doi.org/10.1002/grl.50521>
- Hensen A, Skiba U, Famulari D. 2013. **Low cost and state of the art methods to measure nitrous oxide emissions.** Environ Res Lett 8(2): 025022. Available from: <http://dx.doi.org/10.1088/1748-9326/8/2/025022>
- Hessen DO. 2013. **Inorganic nitrogen deposition and its impacts on N:P-ratios and lake productivity.** Water-SUI 5(2): 327-341. Available from: <http://dx.doi.org/10.3390/w5020327>
- Heumann S, Fier A, Hassdenteufel M, Hoper H, Schafer W, Eiler T, Bottcher J. 2013. **Minimizing nitrate leaching while maintaining crop yields: insights by simulating net N mineralization.** Nutr Cycl Agroecosys 95(3): 395-408. Available from: <http://dx.doi.org/10.1007/s10705-013-9572-y>
- Houlton BZ, Boyer E, Finzi A, Galloway J, Leach A, Liptzin D, Melillo J, Rosenstock TS, Sobota D, Townsend AR. 2013. **Intentional versus unintentional nitrogen use in the United States: trends, efficiency and implications.** Biogeochemistry 114(1-3): 11-23. Available from: <http://dx.doi.org/10.1007/s10533-012-9801-5>
- Isbell F, Reich PB, Tilman D, Hobbie SE, Polasky S, Binder S. 2013. **Nutrient enrichment, biodiversity loss, and consequent declines in ecosystem productivity.** P Natl Acad Sci USA 110(29): 11911-11916. Available from: <http://dx.doi.org/10.1073/pnas.1310880110>
- Khanna PK, Raison RJ. 2013. **In situ core methods for estimating soil mineral-N fluxes: Re-evaluation based on 25 years of application and experience.** Soil Biol Biochem 64: 203-210. Available from: <http://dx.doi.org/10.1016/j.soilbio.2012.09.004>
- Kissel DE, Cabrera ML, Craig JR, Rema JA, Morris LA. 2013. **Rate of urea application and NH₃ volatilization from loblolly pine.** Soil Sci Soc Am J 77(1): 184-189. Available from: <http://dx.doi.org/10.2136/sssaj2012.0186>
- Koo B, Piyachaturawat P, Morris R, Knipping E. 2012. **Evaluation of the variability in chemical transport model performance for deposition and ambient concentrations of nitrogen and sulfur compounds.** Atmosphere-Basel 3(3): 400-418. Available from: <http://dx.doi.org/10.3390/atmos3030400>
- Kopacek J, Hejzlar J, Posch M. 2013. **Factors controlling the export of nitrogen from agricultural land in a large Central European catchment during 1900-2010.** Environ Sci Technol 47(12): 6400-6407. Available from: <http://dx.doi.org/10.1021/es400181m>
- Kopp C, Pernice M, Domart-Coulon I, Djediat C, Spangenberg JE, Alexander DTL, Hignette M, Meziane T, Meibom A. 2013. **Highly dynamic cellular-level response of symbiotic coral to a**

- sudden increase in environmental nitrogen. mBio 4(3): e00052-13. Available from: <http://dx.doi.org/10.1128/mBio.00052-13>
- Kortelainen P, Rantakari M, Pajunen H, Huttunen JT, Mattsson T, Juutinen S, Larmola T, Alm J, Silvola J, Martikainen PJ. 2013. **Carbon evasion/accumulation ratio in boreal lakes is linked to nitrogen.** Global Biogeochem Cy 27(2): 363-374. Available from: <http://dx.doi.org/10.1002/gbc.20036>
- Korth F, Fry B, Liskow I, Voss M. 2013. **Nitrogen turnover during the spring outflows of the nitrate-rich Curonian and Szczecin lagoons using dual nitrate isotopes.** Mar Chem 154(1): 11. Available from: <http://dx.doi.org/10.1016/j.marchem.2013.04.012>
- Kvalevag MM, Myhre G. 2013. **The effect of carbon-nitrogen coupling on the reduced land carbon sink caused by tropospheric ozone.** Geophys Res Lett 40(12): 3227-3231. Available from: <http://dx.doi.org/10.1002/grl.50572>
- Lavorel S, Storkey J, Bardgett RD, de Bello F, Berg MP, Le Roux X, Moretti M, Mulder C, Pakeman RJ, Diaz S, Harrington R. 2013. **A novel framework for linking functional diversity of plants with other trophic levels for the quantification of ecosystem services.** J Veg Sci 24(5): 942-948. Available from: <http://dx.doi.org/10.1111/jvs.12083>
- Leach AM, Majidi AN, Galloway JN, Greene AJ. 2013. **Toward institutional sustainability: a nitrogen footprint model for a university.** Sustainability 2013 6(4): 211-219. Available from: <http://online.liebertpub.com/doi/pdfplus/10.1089/SUS.2013.9852>
- Le Fouest V, Babin M, Tremblay JE. 2013. **The fate of riverine nutrients on Arctic shelves.** Biogeosciences 10(6): 3661-3677. Available from: <http://dx.doi.org/10.5194/bg-10-3661-2013>
- Le Fouest V, Zakardjian B, Xie H, Raimbault P, Joux F, Babin M. 2013. **Modeling plankton ecosystem functioning and nitrogen fluxes in the oligotrophic waters of the Beaufort Sea, Arctic Ocean: a focus on light-driven processes.** Biogeosciences 10(7): 4785-4800. Available from: <http://dx.doi.org/10.5194/bg-10-4785-2013>
- Li KH, Liu XJ, Song W, Chang YH, Hu YK, Tian CY. 2013. **Atmospheric nitrogen deposition at two sites in an arid environment of Central Asia.** PLoS One 8(6): e67018. Available from: <http://dx.doi.org/10.1371/journal.pone.0067018>
- Liu XY, Koba K, Takebayashi Y, Liu CQ, Fang YT, Yoh M. 2013. **Dual N and O isotopes of nitrate in natural plants: first insights into individual variability and organ-specific patterns.** Biogeochemistry 114(1-3): 399-411. Available from: <http://dx.doi.org/10.1007/s10533-012-9721-4>
- Lu X, Gilliam FS, Yu G, Li L, Mao Q, Chen H, Mo J. 2013. **Long-term nitrogen addition decreases carbon leaching in a nitrogen-rich forest ecosystem.** Biogeosciences 10(6): 3931-3941. Available from: <http://dx.doi.org/10.5194/bg-10-3931-2013>

McCrackin ML, Harrison JA, Compton JE. 2013. **A comparison of NEWS and SPARROW models to understand sources of nitrogen delivered to US coastal areas.** Biogeochemistry 114(1-3): 281-297. Available from: <http://dx.doi.org/10.1007/s10533-012-9809-x>

McNickle GG, Deyholos MK, Cahill JF. 2013. **Ecological implications of single and mixed nitrogen nutrition in *Arabidopsis thaliana*.** BMC Ecol 13: 28. Available from: <http://dx.doi.org/10.1186/1472-6785-13-28>

Moldan F, Cosby BJ, Wright RF. 2013. **Modeling past and future acidification of Swedish lakes.** AMBIO 42(5): 577-586.

Available from: <http://dx.doi.org/10.1007/s13280-012-0360-8>

Nakagawa F, Suzuki A, Daita S, Ohyama T, Komatsu DD, Tsunogai U. 2013. **Tracing atmospheric nitrate in groundwater using triple oxygen isotopes: evaluation based on bottled drinking water.** Biogeosciences 10(6): 3547-3558. Available from:

<http://dx.doi.org/10.5194/bg-10-3547-2013>

Nicastro A, Bishop MJ. 2013. **Weak and habitat-dependent effects of nutrient pollution on macrofaunal communities of southeast Australian estuaries.** PLoS One 8(6): e65706.

Available from: <http://dx.doi.org/10.1371/journal.pone.0065706>

Nunnally CC, Rowe GT, Thornton DCO, Quigg A. 2013. **Sedimentary oxygen consumption and nutrient regeneration in the northern Gulf of Mexico hypoxic zone.** J Coastal Res 63: 84-96. Available from: <http://dx.doi.org/10.2112/SI63-008.1>

Ochoa-Hueso R, Perez-Corona ME, Manrique E. 2013. **Impacts of simulated N deposition on plants and mycorrhizae from Spanish semiarid Mediterranean shrublands.** Ecosystems 16(5): 838-851. Available from: <http://dx.doi.org/10.1007/s10021-013-9655-2>

Ochoa-Hueso R, Maestre FT, de los Rios A, Valea S, Theobald MR, Vivanco MG, Manrique E, Bowker MA. 2013. **Nitrogen deposition alters nitrogen cycling and reduces soil carbon content in low-productivity semiarid Mediterranean ecosystems.** Environ Pollut 179: 185-193. Available from: <http://dx.doi.org/10.1016/j.envpol.2013.03.060>

Peel JL, Haeuber R, Garcia V, Russell AG, Neas L. 2013. **Impact of nitrogen and climate change interactions on ambient air pollution and human health.** Biogeochemistry 114(1-3): 121-134. Available from: <http://dx.doi.org/10.1007/s10533-012-9782-4>

Pinder RW, Bettez ND, Bonan GB, Greaver TL, Wieder WR, Schlesinger WH, Davidson EA. 2013. **Impacts of human alteration of the nitrogen cycle in the US on radiative forcing.** Biogeochemistry 114(1-3): 25-40. Available from: <http://dx.doi.org/10.1007/s10533-012-9787-z>

Poor ND, Pribble JR, Schwede DB. 2013. **Application of watershed deposition tool to estimate from CMAQ simulations the atmospheric deposition of nitrogen to Tampa Bay and its watershed.** J Air Waste Manage 63(1): 100-114. Available from: <http://dx.doi.org/10.1080/10962247.2012.739109>

Porter EM, Bowman WD, Clark CM, Compton JE, Pardo LH, Soong JL. 2013. **Interactive effects of anthropogenic nitrogen enrichment and climate change on terrestrial and aquatic biodiversity.** Biogeochemistry 114(1-3): 93-120. Available from: <http://dx.doi.org/10.1007/s10533-012-9803-3>

Quemada M, Baranski M, Nobel-de Lange MNJ, Vallejo A, Cooper JM. 2013. **Meta-analysis of strategies to control nitrate leaching in irrigated agricultural systems and their effects on crop yield.** Agr Ecosyst Environ 174: 1-10. Available from: <http://dx.doi.org/10.1016/j.agee.2013.04.018>

Robertson GP, Bruulsema TW, Gehl RJ, Kanter D, Mauzerall DL, Rotz CA, Williams CO. 2013. **Nitrogen-climate interactions in US agriculture.** Biogeochemistry 114(1-3): 41-70. Available from: <http://dx.doi.org/10.1007/s10533-012-9802-4>

Robertson WM, Sharp JM. 2013. **Variability of groundwater nitrate concentrations over time in arid basin aquifers: sources, mechanisms of transport, and implications for conceptual models.** Environ Earth Sci 69(7): 2415-2426. Available from: <http://dx.doi.org/10.1007/s12665-012-2069-1>

Robinson TH, Melack JM. 2013. **Modeling nutrient export from coastal California watersheds.** J Am Water Resour As 49(4): 793-809. Available from: <http://dx.doi.org/10.1111/jawr.12037>

Roche LM, Kromschroeder L, Atwill ER, Dahlgren RA, Tate KW. 2013. **Water quality conditions associated with cattle grazing and recreation on national forest lands.** PLoS One 8(6): e68127. Available from: <http://dx.doi.org/10.1371/journal.pone.0068127>

Roy ED, White JR, Smith EA, Bargu S, Li CY. 2013. **Estuarine ecosystem response to three large-scale Mississippi River flood diversion events.** Sci Total Environ 458: 374-387. Available from: <http://dx.doi.org/10.1016/j.scitotenv.2013.04.046>

Saeck EA, O'Brien KR, Weber TR, Burford MA. 2013. **Changes to chronic nitrogen loading from sewage discharges modify standing stocks of coastal phytoplankton.** Mar Pollut Bull 71(1-2): 159-167. Available from: <http://dx.doi.org/10.1016/j.marpolbul.2013.03.020>

Schubert PR, Karez R, Reusch TBH, Dierking J. 2013. **Isotopic signatures of eelgrass (*Zostera marina L.*) as bioindicator of anthropogenic nutrient input in the western Baltic Sea.** Mar Pollut Bull 72(1): 64-70. Available from: <http://dx.doi.org/10.1016/j.marpolbul.2013.04.029>

Shah GA, Groot JCJ, Shah GM, Lantinga EA. 2013. **Simulation of long-term carbon and nitrogen dynamics in grassland-based dairy farming systems to evaluate mitigation strategies for nutrient losses.** PLoS One 8(6): e67279. Available from: <http://dx.doi.org/10.1371/journal.pone.0067279>

Southon GE, Field C, Caporn SJM, Britton AJ, Power SA. 2013. **Nitrogen deposition reduces plant diversity and alters ecosystem functioning: field-scale evidence from a nationwide survey of UK heathlands.** PLoS One 8(4): e59031.

Available from: <http://dx.doi.org/10.1371/journal.pone.0059031>

Straub M, Sigman DM, Ren H, Martínez-García A, Nele Meckler A, Hain MP, Haug GH. 2013. **Changes in North Atlantic nitrogen fixation controlled by ocean circulation.** Nature. Published online August 21. Available from: <http://dx.doi.org/10.1038/nature12397>

Suddick EC, Whitney P, Townsend AR, Davidson EA. 2013. **The role of nitrogen in climate change and the impacts of nitrogen-climate interactions in the United States: foreword to thematic issue.** Biogeochemistry 114(1-3): 1-10. Available from: <http://dx.doi.org/10.1007/s10533-012-9795-z>

Sylvan JB, Ammerman JW. 2013. **Seasonal distributions of organic nutrients on the Louisiana continental shelf and their implications for nutrient limitation and hypoxia formation.** Mar Chem 154: 113-123. Available from: <http://dx.doi.org/10.1016/j.marchem.2013.05.008>

Tipping E, Henrys PA, Maskell LC, Smart SM. 2013. **Nitrogen deposition effects on plant species diversity; threshold loads from field data.** Environ Pollut 179: 218-223. Available from: <http://dx.doi.org/10.1016/j.envpol.2013.04.008>

Vogt E, Dragosits U, Braban CF, Theobald MR, Dore AJ, van Dijk N, Tang YS, McDonald C, Murray S, Rees RM, Sutton MA. 2013. **Heterogeneity of atmospheric ammonia at the landscape scale and consequences for environmental impact assessment.** Environ Pollut 179: 120-131. Available from: <http://dx.doi.org/10.1016/j.envpol.2013.04.014>

Wang CY, Lv YN, Liu XYL, Wang L. 2013. **Ecological effects of atmospheric nitrogen deposition on soil enzyme activity.** J Forestry Res 24(1): 109-114. Available from: <http://dx.doi.org/10.1007/s11676-013-0330-4>

Ward BB. 2013. **How nitrogen is lost.** Science 341(6144): 352-353. Available from: <http://dx.doi.org/10.1126/science.1240314>

Wei CZ, Zheng HF, Li Q, Lu XT, Yu Q, Zhang HY, Chen QS, He NP, Kardol P, Liang WJ, Han XG. 2012. **Nitrogen addition regulates soil nematode community composition through ammonium suppression.** PLoS One 7(8): e43384.

Available from: <http://dx.doi.org/10.1371/journal.pone.0043384>

Wolf KL, Noe GB, Ahn C. 2013. **Hydrologic connectivity to streams increases nitrogen and phosphorus inputs and cycling in soils of created and natural floodplain wetlands.** J Environ Qual 42(4): 1245-1255. Available from: <http://dx.doi.org/10.2134/jeq2012.0466>

Wu YP, Liu SG, Sohl TL, Young CJ. 2013. **Projecting the land cover change and its environmental impacts in the Cedar River Basin in the Midwestern United States.** Environ Res Lett 8(2): 024025. Available from: <http://dx.doi.org/10.1088/1748-9326/8/2/024025>

Wuyts K, De Schrijver A, Staelens J, Verheyen K. 2013. **Edge effects on soil acidification in forests on sandy soils under high deposition load.** Water Air Soil Poll 224(6): 1545. Available from: <http://dx.doi.org/10.1007/s11270-013-1545-x>

Xiao ZY, Jiang H, Song XD, Zhang XY. 2013. **Monitoring of atmospheric nitrogen dioxide using Ozone Monitoring Instrument remote sensing data.** J Appl Remote Sens 7: 073534. Available from: <http://dx.doi.org/10.1117/1.JRS.7.073534>

Xu YJ. 2013. **Transport and retention of nitrogen, phosphorus and carbon in North America's largest river swamp basin, the Atchafalaya River Basin.** Water-SUI 5(2): 379-393. Available from: <http://dx.doi.org/10.3390/w5020379>

Zhang Y, Qian YL, Bremer DJ, Kaye JP. 2013. **Simulation of nitrous oxide emissions and estimation of global warming potential in turfgrass systems using the DAYCENT model.** J Environ Qual 42(4): 1100-1108. Available from: <http://dx.doi.org/10.2134/jeq2012.0486>

News

Bergeron J. **Study shows farm leakage decreasing.** Natchez Democrat 2013 Aug 31. Available from: <http://www.natchezdemocrat.com/2013/08/31/study-shows-farm-leakage-decreasing/>

Danielson, D. **Center to study nutrient reduction in waterways approved.** Radio Iowa. 2013 Aug 12. Available from: <http://www.radioiowa.com/2013/08/12/center-to-study-nutrient-reduction-in-waterways-approved/>

Doran T. **Watershed project focuses on farmer solutions.** AgriNews. 2013 Aug 1. Available from: <http://agrnews-pubs.com/Content/News/MoneyNews/Article/Watershed-project-focuses-on-farmer-solutions-/8/27/7931>

Kucinich E. **Blog: Industrial agriculture, dead zones and genetically engineered corn.** The Huffington Post. 2013 Aug 1. Available from: http://www.huffingtonpost.com/elizabeth-kucinich/the-killing-fields-indust_b_3678515.html

Love O. **Farm fertilizer runoff wreaking havoc: 'Nitrogen pulse' impacting Mississippi River, worsening Gulf of Mexico's dead zone.** The Gazette, 2013 Aug 8. Available from: <http://thegazette.com/2013/08/04/farm-fertilizer-runoff-wreaking-havoc/>

Parrish D. **Farmers are committed to nutrient management.** Dairy Herd Network. 2013 Aug 5. Available from: <http://www.dairyherd.com/dairy-news/Farmers-are-committed-to-nutrient-management-218363541.html?view=all>

USDA: Conservation work reduces sediment, nutrient runoff. AgProfessional 2013 Aug 28. Available from: <http://www.agprofessional.com/news/USDA-Conservation-work-reduces-sediment-nutrient-runoff-221461851.html?ref=851>

For Bloomberg BNA subscribers (including EPA staff):

Wolski M. **Water pollution: groups petition Iowa regulators to set numeric clean water standards for nutrients.** Daily Environ Rep 2013 Aug 30. Available from: http://esweb.bna.com/eslw/1245/split_display.adp?fedfid=36082931&vname=dennotallissues&wsn=499209500&searchid=20979295&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=0

Saiyid AH. **Water pollution: EPA finalizes quality criteria for ammonia levels in freshwater.** Daily Environ Rep 2013 Aug 22. Available from: http://esweb.bna.com/eslw/1245/split_display.adp?fedfid=35625292&vname=dennotallissues&wsn=499412500&searchid=20979295&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=1

Menyasz P. **Agriculture: Canadian report calls for incentives to help agriculture sector become more sustainable.** Daily Environ Rep 2013 Aug 12. Available from: http://esweb.bna.com/eslw/1245/split_display.adp?fedfid=35471930&vname=dennotallissues&wsn=499669500&searchid=20979405&doctypeid=2&type=date&mode=doc&split=0&scm=1245&pg=0

For Greenwire subscribers (including EPA staff):

Wyckoff WB. **Mississippi River: farmers reduced sediment loss through voluntary conservation – USDA.** Greenwire 2013 Aug 28. Available from: <http://www.eenews.net/greenwire/stories/1059986514/>

Reports

Final aquatic life ambient water quality criteria for ammonia - freshwater 2013: a notice by the Environmental Protection Agency on 08/22/2013. EPA-HQ-OW-2009-0921, FRL-9810-4, 2013-20307. 78 Federal Register 163 (22 August 2013), pp. 52192-52194. Available from: <https://federalregister.gov/a/2013-20307>

Stuckey J, Le Vallée J-C, Charman C. **Reducing the risk: addressing the environmental impacts of the food system.** Ottawa, Ontario, Canada: The Conference Board of Canada, August 2013. 62 p. Available from: <http://www.conferenceboard.ca/e-library/abstract.aspx?did=5561>

Assessment of the effects of conservation practices on cultivated cropland in the lower Mississippi River Basin. Washington, DC: U.S. Department of Agriculture Natural Resources Conservation Service Conservation Effects Assessment Project, August 2013. 201 p. Available from: http://www.nrcc.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1176978.pdf

Web Pages

U.S. Department of Agriculture Natural Resources Conservation Service. **Conservation Effects Assessment Project (CEAP)** [Internet]. Available from:
<http://www.nrcc.usda.gov/wps/portal/nrcc/main/national/technical/nra/ceap/>